

CENTRAL INTELLIGENCE AGENCY

PROPOSED OFFICE BUILDING

N-182

LANGLEY, VIRGINIA

OUTLINE SPECIFICATIONS

for

PLUMBING WORK

JANUARY 31, 1958

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Date 12/04/81 Reviewer 01899

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Job #N-182  
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OUTLINE SPECIFICATIONS

for

PLUMBING WORK

P-01 SCOPE OF WORK

All required labor, materials, equipment, and Contractor's services necessary for complete installation of Plumbing Work in full conformity with requirements of all Authorities having jurisdiction; all as indicated on drawings and/or herein specified, including in general the following:

- a. Sanitary Yard Sewer System to County Pumping station including manholes as indicated, and sewage disposal for North Gate House.
- b. Storm Water Drainage Systems for buildings including roof drains, inside leaders, area drains, sump pumps, and house sewers to points 5 ft outside building wall.
- c. Sanitary Drainage and Vent Systems including drainage connections to plumbing fixtures and equipment requiring same, floor drains, sewage ejectors and house sewers connecting to yard sewers.
- d. Water Supply Systems including service from public meter at property line, tank fill pumps, elevated steel storage tank on tower, and distribution yard main.
- e. Domestic Water Supply Systems including services from yard mains, HW heating equipment, ChW equipment, and CW, HW and ChW connections to plumbing fixtures and equipment requiring same.
- f. Fire Protection Systems:
  1. Fire Protection System for site including fire hydrants, connecting to yard main.
  2. Fire Standpipe System including temporary fire protection during construction, services from yard main, siamese, main risers in stairhalls with 2-1/2" fire hose outlets and isolated hose station risers, and hose stations.

WG, JCC-WG

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3. Sprinkler Systems: Wet-pipe spray type, for library stack areas, scrap paper storage room; plumbing, elevator, gear (2), paint, carpenter and machine shops; nitrate film storage building; incinerator rooms and garage; including services from yard main, siamese, alarm valves, and all required accessories.

4. Carbon Dioxide Fire Protection Systems: Automatic room flooding type, for secure vaults, including cylinder banks and rate-of-rise actuating systems.

g. Gas Systems: "Bottle" type for boiler plant and incinerators, including bottles and/or underground storage tank and distribution manifold, and connections to all outlets and other equipment requiring same.

h. Compressed Air System including connections to all outlets and equipment requiring same.

i. Insulation of CW, HW, ChW, and HW and ChW circulating piping, HW heaters, and drainage piping as specified in Standard for Nonconducting Covering.

j. Plumbing Fixtures as indicated on drawings and/or hereinafter specified.

k. Excavation and Backfilling required for Plumbing Work.

P-02 WORK NOT INCLUDED

a. Temporary water supply for construction.

b. Temporary toilet facilities for workmen.

c. Kitchen, photography and laboratory equipment including dishwasher and glasswasher booster heaters, and stainless steel sinks.

d. Setting of access doors, and sump pit cover frames.

e. Cutting and patching except for correcting Contractor's mistakes.

f. Electrical wiring and mounting of starting and control equipment for electrically operated equipment and alarms.

g. Steam and return piping for HW heaters including installation of steam regulating valves.

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- h. Air compressors.
- i. Tower foundation and valve pit for elevated storage tank.

P-03 GENERAL ITEMS

a. References to Standard in this section means Standard Specifications of General Services Administration, Public Building Service.

b. Valve Tag and Charts: 2" aluminum numbered tags on control valves, and approved metal framed charts, diagrams, and lists showing operation of each system, and location and purpose of valves.

c. Air Chambers: Provide on individual water branches to fixtures, 12" high and same size as branch.

d. Foundations: Concrete block enclosed in #18 USSG galv welded steel form and mound shaped rubber-in-shear vibration isolation rails under rotating machinery.

e. Painting: Hangers and supports, and exposed black steel and cast iron piping, and steel and iron work: Primed with zinc chromate. All exposed iron work, equipment, piping: Two coats of lead and oil paint.

f. Flashing: 6 lb lead flashing for roof drains, and piping through roof.

g. Access Doors: Provide concealed valves (except in removable pan ceilings) with adequate sized access doors.

h. Access ladders: Provide approved galvanized steel ladders for all fire protection control valves located 7 ft or more above floor.

P-04 MATERIALS

a. Drainage Piping:

1. Underground Sanitary Piping from Points 5 Ft Outside Building Wall: Std wt vitrified clay bell and spigot sewer pipe with hot poured or prefabricated bituminous joints. Use extra strength under roads, pavements, and under 8 ft or more cover.

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2. Underground Piping to Points 5 Ft Outside Building  
Wall: EXH hub and spigot CI soil pipe and fittings with caulked lead joints.

3. Drainage and Vent Piping Inside Building: Galv std wt steel pipe with galv threaded CI drainage fittings and galv threaded MI vent fittings.

4. Manholes: Concrete or brick on concrete slab with channels, 3/4" galv WI steps on 18" centers and CI roadway or walkway type (as required) frame and cover.

b. Water Piping:

1. Underground Piping: 4" and larger, Class 150 "Enamelined" (thin cement lining) CI bell and spigot water pipe and Class D fittings with stuffing box type mechanical bolted assembly joints. Joints at fittings and valves reinforced with galv WI rods and clamps.

2. Other Piping: Std wt red brass or copper pipe with std wt cast brass threaded fittings.

3. Fire Standpipe: Std wt steel pipe with std wt MI threaded or flanged CI fittings. Pipe between siamese and check: Galv.

4. Sprinkler: Std wt steel pipe with std wt CI threaded or flanged fittings.

c. Carbon Dioxide Piping: Galv steel pipe, 3/4" and smaller, std wt; 1" and larger, extra heavy. Fittings, 2" and smaller, galv threaded extra heavy MI or steel; 2-1/2" and larger, threaded 3000 psi forged steel, galv threaded 2000 psi cast steel, or flanged 600 psi forged steel (Series 60) tongue and groove type.

d. Gas Piping: Std wt steel pipe with std wt MI threaded fittings inside and welded or "Dresser" fittings underground. Underground piping: "Mill-Wrapped".

e. Compressed Air Piping: Std wt galv steel pipe with std wt galv CI threaded fittings.

f. Valves: Provide control valves where indicated, required, and on all branches.

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1. General: 125 psi; 2" and smaller - brass; 2-1/2" and larger - flanged IBBM. Control valves: Rising stem gate valves. Check valves: Swing type except "Hager" spring type on tank fill pump discharge.

2. Underground: AWWA double disc type with valve box.

3. Sprinkler and Fire Standpipe: Underwriters' approved. *Local Fire Dept threads -*

4. Fire Hydrants: Approved type, with local Fire Dept threads.

5. Gas: 2" and smaller; AGA brass gas cocks. 2-1/2" and larger; 175 psi CI lubricated plug cocks.

g. Roof Drains: Gravel roofs - CI sump type body with dome strainer. Deck roofs - CI body with brass top grate.

h. Floor Drains: CI body with integral double drainage flange and adjustable neck.

1. Acid Neutralizing Sumps (For Laboratory Sinks): 12" dia x 12" high chemical stoneware with bolted cover and chemical charge.

j. Insulation:

1. Valves and Fittings: Built up with plastic asbestos cement and pasted canvas jacket.

2. Water Piping: 3/4" Wool-felt sectional covering.

3. Drainage Piping: As specified for CW piping.

4. ChW Piping: Light duty natural moulded cork sectional pipe covering, equal thickness segmental pipe covering, or class 5 thickness cellular glass pipe covering.

5. HW Heaters: 85% magnesia blocks with wire mesh reinforced asbestos cement finish.

P-05 EQUIPMENT

a. Motors and Controllers: 1/3 hp and smaller: 120 volt, single phase, 60 cycle, AC; with disconnect switch, thermal overload protection, and HOA switch. Motors 1/2 hp and larger:

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440 volt, 3 phase, 60 cycle, AC; with combination unfused disconnect switch, starter with thermal overload protection, and HOA switch. Starters: 100 hp and smaller - across-the-line type. 125 hp and larger - primary resistance type. Duplex equipment: Two controllers and manual transfer switch in one cabinet. Cabinets: NEMA-1.

b. Elevated Storage Tank: 300,000 gal NBFU approved butt-welded steel tank supported on 140 ft welded tubular steel columns on concrete foundations with steel riser pipe from bottom having inside and outside ladders, manhole near base, radiator type steam heating unit and required risers. Provide high and low water alarms in tank. Provide valve pit under tower.

c. Tank Fill Pumps: Three automatic flexible coupled horizontally split case IBBM centrifugal pumps; 350 gpm, 150 ft head at 1750 rpm with 25 hp motor; similar to Peerless 3AM-13.

d. Sump Pumps: In each Basement mechanical area, duplex automatic vertical submerged IBBM centrifugal pumps; 300 gpm, 35 ft head at 1750 rpm with 5 hp motor; similar to Yeomans #34031; with 3/8" galv steel cover plate, access manhole, galv welded angle iron frame (72" x 72" x 72" pit), electrode pump controls, and compression tube alarm.

e. Sewage Ejectors: Duplex automatic pneumatic units with CI pots, float switch or electrode control, compression tube alarm and individual air compressor; 30 gpm at 21 ft head with 1-1/2 hp motor.

f. HW Heaters:

1. In Main Building, duplex 54" x 168" 125 psi WP welded copper silicon alloy tank with removable copper tubing element to heat 800 gph 120 deg rise with 40 psi steam, with relief valve, dial thermometer, steam-regulating valve, and pipe leg stand.

2. In boiler plant, instantaneous steam type welded steel or cast CI shell with removable copper tubing element to heat required gph 120 deg rise with 40 psi steam, with relief valve, dial thermometer, steam regulating valve and thermostatic tempering valve.

3. Booster heaters: Instantaneous steam type welded steel or cast CI shell with removable copper tubing element; capacity as indicated, with relief valve, dial thermometer and steam regulating valve.

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4. In Gate Houses, 6 gal "glass" lined steel tank with 1250 watt (120 volt) electric heating element. Mount on floor under lavatory.

g. HW Circulating Pumps: Duplex automatic flexible coupled vertically split case IBBM centrifugal pumps; 15 gpm, 40 ft head at 3450 rpm with 1/3 hp motor; similar to Bell & Gossett #1522-14 with immersed type aquastat.

h. Alarms: Panel with 3" gong, and pilot lights and auto-reset manual bell silencer for required alarms.

i. Drinking Water Cooling Units: Two factory assembled water chillers, each 300 gal storage and 350 gph 80F to 45F in 90F room. (par 51-54 of Standard for Air Conditioning).

j. Fire Standpipe Equipment:

1. Fire Hose Stations: Underwriters' approved 1-1/2" rough brass angle hose valve; red enameled welded steel covered hose rack with brass rack nipple; 75 ft of 1-1/2" "Yellow Label Flax Line" unlined linen hose with brass couplings and red enameled galv iron nozzle; galv iron spanner wrench on brass chain. Trim: Satin finish CP.

2. Siamese: Underwriters' approved satin finish CP cast bronze flush wall type.

P-06 PLUMBING FIXTURES

a. General: Provided with stop valves and CP brass trim.

b. Water Closets: Siphon-jet elongated rim floor outlet bowl (outfit VW16) with exposed diaphragm type flush valve and VB, (type LC Pattern D), and open front seat with check hinge (type CEB).

c. Urinals: Siphon-jet pedestal type (No. VU16PF) with exposed foot operated diaphragm type flush valve (pedal operated type LC Pattern D).

d. Lavatories: 20" x 18" vit china (VL20F) with center-set combination supply and pop-up waste (type 14D), supported on concealed arm built-in wall carrier. Where indicated, knee-operated mixing valve supply.

e. Slop Sinks: 24" x 20" AR enameled CI (Outfit ES24G) back, rim guard, and wall mounted combination supply with VB (type 49).

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f. Drinking Fountains: Vit china semi-recessed type (Outfit VD15).

g. Showers: Adjustable stream ball-joint head and built-in thermostatic mixing valve with check stops and strainers (Outfit STC).

h. Sinks: 20" x 30" AR enameled CI sink with back (Outfit EK30S), combination supply with soap dish (type 36) and crumb cup strainer waste (type 82).

i. Laundry Tub: Two compartment concrete laundry tub on angle iron frame (Outfit MT48) with combination swing spout faucet (type 56).

j. Toilet Accessories: All accessories shall be CP brass securely attached in tamper-proof manner.

1. At each water closet, toilet paper holder (type 437).

2. At each water closet, coat hook (type 419).

3. At each lavatory, except Private Toilets, satin finish CP lather type soap dispenser.

4. Where indicated, paper towel cabinet (type 445).